Appl. No. 09/740,752 Amdt. dated: April 8, 2004 Reply to Office Action of October 8, 2003

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for establishing a connection between a receiver <u>terminal</u> and a transmitter <u>terminal</u>, located at a distance from each other, comprising the steps of:

sending <u>from said transmitter terminal toward said receiver terminal both a first</u>
<u>tightly bundled lightwave</u> <u>lightwaves</u> carrying data signals and <u>a second wider angle</u> beacon
lightwave to assist in receptive alignment of said first data signal lightwave; from the transmitter,

using an acquisition <u>sensor and a receiving sensor at said receiver terminal to</u>
<u>acquire said wider beacon lightwave and generate internal control signals to better align said</u>
<u>receiving sensor to receive said data signals; receiver for acquiring the lightwaves in the receiver, generating acquisition sensor signals from the received lightwaves in the receiver,</u>

using said receiving sensor to receive said data signals once proper alignment has been achieved. wherein, the lightwaves conducted in the receiver are fed to a beam splitter, an acquisition sensor and a scanning device, and by means of the scanning device, an additional signal is obtained, which is used to make acquisition easier.

2. (Currently Amended) The method in accordance with claim 1,

wherein light from <u>said receiving sensor</u> the seanning is conducted over a first lightwave fiber to a diplexer, and light is split off from this diplexer and conducted to a detector over a second lightwave fiber, which provides an additional signal for making acquisition easier.

3. (Currently Amended) The method in accordance with claim 2, A method for establishing a connection between a receiver terminal and a transmitter terminal, located at a distance from each other, comprising the steps of:



Appl. No. 09/740,752 Amdt. dated: April 8, 2004 Reply to Office Action of October 8, 2003

sending from said transmitter terminal toward said receiver terminal both a first tightly bundled lightwave carrying data signals and a second wider angle beacon lightwave to assist in receptive alignment of said first data signal lightwave;

using an acquisition sensor and a receiving sensor at said receiver terminal to acquire said wider beacon lightwave and generate internal control signals to better align said receiving sensor to receive said data signals;

using said receiving sensor to receive said data signals once proper alignment has been achieved;

wherein light from said receiving sensor is conducted over a first lightwave fiber to a diplexer, and light is split off from this diplexer and conducted to a detector over a second lightwave fiber, which provides an additional signal for making acquisition easier;

further wherein light, which arrives via the first lightwave fiber and the diplexer, is also conducted to an optical waveguide coupler, in which this light, and light from a local laser conducted through a third lightwave fiber, are mixed, wherein the mixed light is split into two parts, each of which reaches a further detector via respective further lightwave fiber for generating at least one error signal.

4. (Currently Amended) A device for <u>receiving a first tightly bundled lightwave</u> carrying data signals and a second wider angle beacon lightwave from a distant establishing a connection between a receiver and a transmitter, comprising:

a receiver telescope and a fine alignment mechanism with a beam splitter to receive both said first and second lightwaves, which beam splitter is designed to provide light via optical fibers means to an acquisition sensor, as well as to a receiving sensor in order to properly orient said device for data reception, seanning device, and,

wherein, when properly oriented, said receiving sensor receives said data signals from said first lightwave with the aid of the scanning device, both a useful signal, and an



Appl. No. 09/740,752 Amdt. dated: April 8, 2004 Reply to Office Action of October 8, 2003

additional signal, which is effective independently of or together with the acquisition sensor signal in the acquisition phase, are obtained.

5. (Currently Amended) The device in accordance with claim 4,

wherein the <u>receiving sensor</u> scanning device is connected via a first lightwave fiber with a diplexer, downstream of which a detector is connected via a second lightwave fiber and provides an additional signal for making acquisition easier.

6. (Currently Amended) The device in accordance with claim 5,

A device for receiving a first tightly bundled lightwave carrying data signals and a second wider angle beacon lightwave from a distant transmitter, comprising:

a receiver telescope and a fine alignment mechanism with a beam splitter to receive both said first and second lightwaves, which beam splitter is designed to provide light via optical fibers means to an acquisition sensor, as well as to a receiving sensor in order to properly orient said device for data reception,

wherein, when properly oriented, said receiving sensor receives said data signals from said first lightwave;

wherein the receiving sensor is connected via a first lightwave fiber with a diplexer, downstream of which a detector is connected via a second lightwave fiber and provides an additional signal for making acquisition easier;

further comprising an optical waveguide coupler, whose input is connected via a third lightwave fiber with the diplexer and which, with coherent heterodyne reception, mixes light arriving from the diplexer and light from a local laser, conducted over a fourth lightwave fiber, and split into two parts, which reach a detector via a respective further lightwave fiber for generating at least one error signal.

PATENT

Appl. No. 09/740,752 Amdt. dated: April 8, 2004 Reply to Office Action of October 8, 2003

- 7. (Currently Amended) The device in accordance with claim 6 5, further comprising a first detector connected with a discriminator, which delivers an additional signal to a system control.
 - 8. (Original) The device in accordance with claim 7,

further comprising a second discriminator, connected downstream of said detector, which delivers at least one error signal to said system control.

9. (Currently Amended) The device in accordance with claim 7,

wherein the <u>receiving sensor scanning device</u> is connected to a control, which provides command signals for a discriminator.

10. (Currently Amended) The device in accordance with claim 4,

wherein the receiver telescope is connected to the system control by means of a coarse pointing assembly CPA control or an fine pointing assembly FPA control.